

tube 8 into vessel 8, driving out the air in the latter and forcing the liquid in 2 up into the gas burette I. The left- and right-hand branches of the latter are thereby closed, and the gas sample (100 c. c.) contained in it is driven over into the potash vessel 3, where the  $\text{CO}_2$  is absorbed. The unabsorbed portion presses an equal volume of solution up the centre tube till it lifts the glass float 7 and actuates the pen gear. Finally the water which has been rising

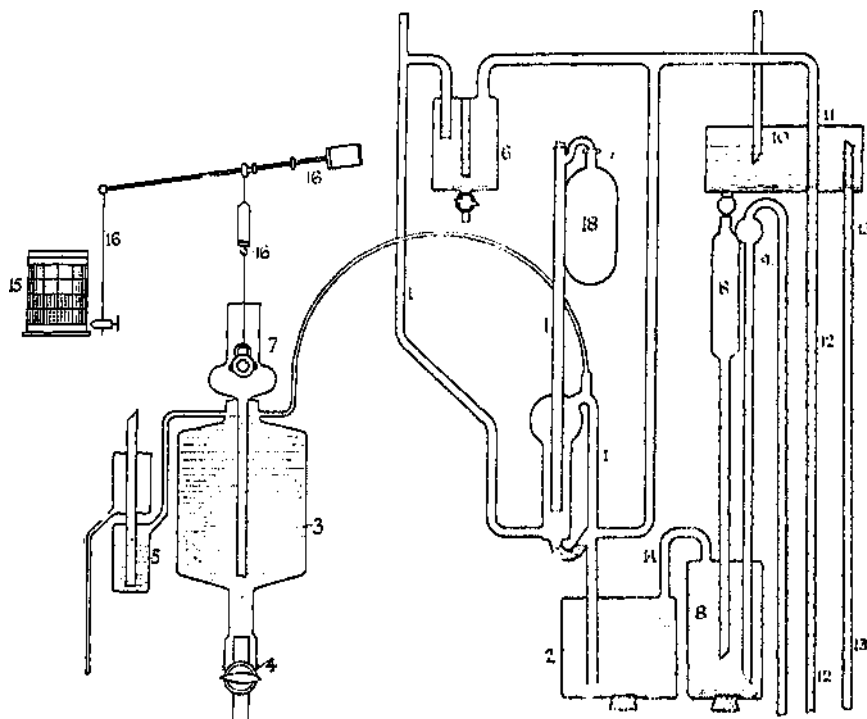


Fig. 4.—Arkon  $\text{CO}_2$  Recorder (Miaftrammatic)

in 9 siphons over and discharges the water from 8, allowing the liquids in 2 and 3 to return to their normal positions. To eliminate "lag" the glycerine seal vessel 6 is provided so that gas can short-circuit across to it when the left and right branches of 1 are sealed. Vessel 5 maintains an exact volume of potash in the absorption vessel at all times. When the liquids are falling in the gas burette at the end of a stroke, the outer level is higher than the inner because of the gas in the central tube being sealed at atmospheric pressure, while the gas in the outer is at lower pressure owing to absorption of the  $\text{CO}_2$ . The burette is graduated at this part, and the scale provided enables the  $\text{CO}_2$  percentage to be read independently of the chart record and supplies a check upon its accuracy.